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AUTHOR Delaney, Anne Marie
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ABSTRACT

This paper presents the results of a study that examined the relationship between parental income and students' college choice process, and identified factors influencing enrollment decisions of students from different income levels. The study found several statistically significant relationships between students' income and the college choice process, with higher income students attributing more importance to the college's surroundings and lower income students focusing more on substantive issues such as opportunities for internships, the academic program, and costs. Among enrolling students, significantly greater numbers of higher income students rated their college of choice positively on academic reputation, quality of the faculty, majors of interest, and perception of academic challenge, while lower income enrolling students rated the college on surroundings, social life, extracurricular activities, and cost. The study recommends improving vibrancy of college social life, developing collaborative programs with others, intensifying efforts to promote the college as prestigious and selective, and building on the college's strengths by increasing contact between prospective students and faculty members. (Contains 14 references.) (CH)

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Parental Income And Students' College Choice Process: Research Findings To Guide Recruitment Strategies

Anne Marie Delaney

Director of Institutional Research, Babson College

Correspondence concerning this paper should be addressed to:

Anne Marie Delaney

Babson College

Horn Library 313

Babson Park, MA 02157-0310

(781) 239-6481

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This paper was presented at the Thirty-Eighth Annual Forum of the Association for Institutional Research held in Minneapolis, Minnesota, May 17-20, 1998.
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Dolores Vura
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ABSTRACT

**Parental Income and Students' College Choice Process:
Research Findings to Guide Recruitment Strategies**

The primary purpose of this paper is to present the design and results from a research study that examined the relationship between parental income and students' college choice process and identified factors influencing the enrollment decisions of students from different income levels. Results from this study have been used to inform recruitment processes both for students eligible for financial aid and for students whose families are able to assume the full financial responsibility for their college education. Both in the design and implementation, this study demonstrates how institutional research can expand institutional horizons by informing the development of unique recruitment strategies for special student populations.

Purpose

The purpose of this paper is to present the design and results from a research study that examined the relationship between parental income and students' college choice process. Major research questions addressed in the study include the following: How does the importance of college characteristics to students' choice vary by parental income? Do students' images of the college they choose to attend vary by income? What other factors influence the enrollment decisions of students from different income levels? What model would best predict the college choice of students in different income levels?

A primary rationale underlying this study is that successful recruitment of any student segment requires an understanding of what factors influence these students' college choice. Further, with increasingly limited financial aid budgets, many institutions need information to enhance their ability to recruit students able to pay their own college costs. Results from this study have been used to inform recruitment processes both for students eligible for financial aid and for students whose families are able to assume the full financial responsibility for their college education.

Review of the Literature

Research conducted over the last several decades provides both a conceptual framework and an empirical basis for identifying individual and institutional factors that influence students' college choice. Offering a relevant conceptual framework, Hossler and Gallagher (1987) propose a three stage model of college choice: the first, predisposition stage is one in which familial, societal and economic factors generate interest and attitudes conducive to college enrollment; the second, search phase occurs when college bound students proactively explore potential institutional

options or choice sets and evaluate their academic and financial capabilities in relation to these potential choices; and the third and final stage is one in which students make their final selection from available options. The present study focuses on the final stage in students' college choice.

Findings from empirical studies have documented the influence of both status and perceptual variables on students' college choice process. Major status variables include students' ability and the family's socioeconomic status. Significant perceptual variables include students' evaluation of the importance of various college characteristics; ratings of specific college characteristics; and images of the higher education institutions in students' college choice set.

In terms of status variables, research from the 1960's to the present documents the effect of family income on students' college choice. An early study, based on a comparative socioeconomic analysis of 18,378 prospective college students, found that students from higher income homes were more likely to have given major consideration to the social opportunities available, and they were also relatively more concerned with developing their intellect while students from less affluent homes were more concerned with vocational and professional training (Baird, 1967). Later, based on statistical analyses of the collegiate options considered by more than one-half million high school seniors in the eastern third of the nation, Zemsky and Oedel (1983) concluded that, "... the patterns of college choice are stitched deeply into the social and economic fabric of the nation" (p. 44). Hearn (1984, 1988) found parental education levels, parental occupations, and family income to be strongly related to college choice. More recently, Flint (1992) reported that, "Of the background characteristics, father's education and family income exhibit the strongest effects, such that higher levels of education or family income are associated with higher levels of selectivity, degree offerings, and greater distance from home" (pp. 702-703).

Several studies have documented a relationship between students' ability and the college choice process. Wanat and Bowles (1992) examined the process of college choice for academically talented students and found that academic reputation was one of the most important factors in their choice. Further, these high ability students judged academic reputation in terms of the reputation of professors, research opportunities, challenges of coursework, prestige, and the recognition of the school's name. These high ability students also preferred the institution that gave them the greatest personal attention during recruitment, and they considered cost and financial packages as secondary considerations to the institution's image.

Based on their research with over 300 college bound high school students, Galotti and Mark (1994) found that, compared with lower ability students, higher ability students were more concerned about academic pace and intensity and less concerned about cost, the admission process and graduation requirements. Fink (1997), in a recent study for the Maryland Higher Education Commission, also documented the importance high ability students place on academic factors in their college choice process. Over 50 percent of the participants in this research, including high school seniors who were named National Merit or National Achievement Semifinalists or were Maryland Distinguished Scholar recipients, identified the following factors as very important in their college choice: overall reputation of college; faculty commitment to good teaching; superior program in intended major; and success of graduates in finding a job or gaining admission to graduate or professional school.

In addition to identifying the influence of student characteristics, such as ability and family income, previous studies have also documented the effect of institutional characteristics on students' college choice. For example, Coccari and Javalgi (1995) found that prospective students generally attribute importance to the quality of staff/faculty, types of degree programs, the

schedule of classes, classroom instruction, locations, student teacher ratio, faculty student interaction, and financial assistance. In their recent study involving freshmen and juniors at a major metropolitan state university, Comm and LaBay (1996) discovered that students ranked the following attributes as highly important in their college choice: good academic reputation, high quality programs and faculty, affordability, extensive choice of resources, good job placement, and well managed facilities. Martin's (1996) research, focusing on students' ratings of their college of choice, revealed that students ranked career preparation, academic program, distance from home, academic reputation, the quality of the school's research program, and library resources as strongly affecting their choice.

In addition to documenting the influence of perceived college characteristics on the college choice process, previous research has identified the relevance of the institution's image in students' enrollment decision. Examining institutional images held by different constituencies, Terkla and Pagano (1993) found notable differences between incoming freshmen and other groups including, current students, graduating seniors, alumni and faculty/administration. Compared with the other groups, incoming freshmen generally held a more positive view of the institution. Specifically, they perceived the institution to be more fun, less expensive, larger and to have more diverse academic programs. The congruence between image and reality is crucial to retention since students are more likely to persevere to graduation if their experience corresponds to their expectation. Therefore, it is in the institution's best interest to examine the specific areas where incoming freshmen's perceptions are significantly different from those of reality. As Kotler & Fox (1985) observe, "A responsive institution has a strong interest in how its publics see the school and its programs and services, since people often respond to the institution's image, not necessarily its reality" (p. 37).

While the present study focuses primarily on the relationship between parents' income and students' final choice, the study design also incorporates relevant perceptual variables identified in the review of the literature, i.e., prospective students' assessment of the importance of college characteristics and their perception of specific characteristics and images of their college of choice. Analyses examine the differential effects of these variables on the college choice of students from higher and lower income categories.

Methodology

Data Source. Results presented in this paper are based on responses to the Admitted Student Questionnaire, administered to 1065 students accepted for the Fall 1996 Entering Freshman Class at a selective, private college in the northeast. Some 54 percent of the accepted student population, 83 percent of the enrolling and 38 percent of the non-enrolling students, responded to the survey. Based on 1995 parental or guardian income before taxes, students are classified in two income categories. Those who reported parental incomes of $100,000 or higher are classified in the higher income category and those who reported parental incomes less than $100,000 are classified in the lower income category.

Limitations of the Data. It is important to recognize the inherent limitations of the data on which this study is based. First, the source of data for this research is based only on the responses from one institution's accepted freshman class. Further, substantially different response rates, 83 and 38 percent respectively, were obtained for the enrolling and non-enrolling students. Although weighting was used to adjust for the differential response rates, differences of this magnitude increase the possibility that some statistics may not approximate the true figures.

Second, the income categories on the Admitted Student Questionnaire provided for limited variation at the higher income levels; all incomes of $100,000 or higher were included in one

category. Future studies might specify more differentiation at the higher income levels; increase the response rates for non-enrolling students; and include other variables that offer additional explanatory power in predicting students' enrollment decision. This study might be viewed as the first in a series of studies to be replicated with a larger sample of institutions.

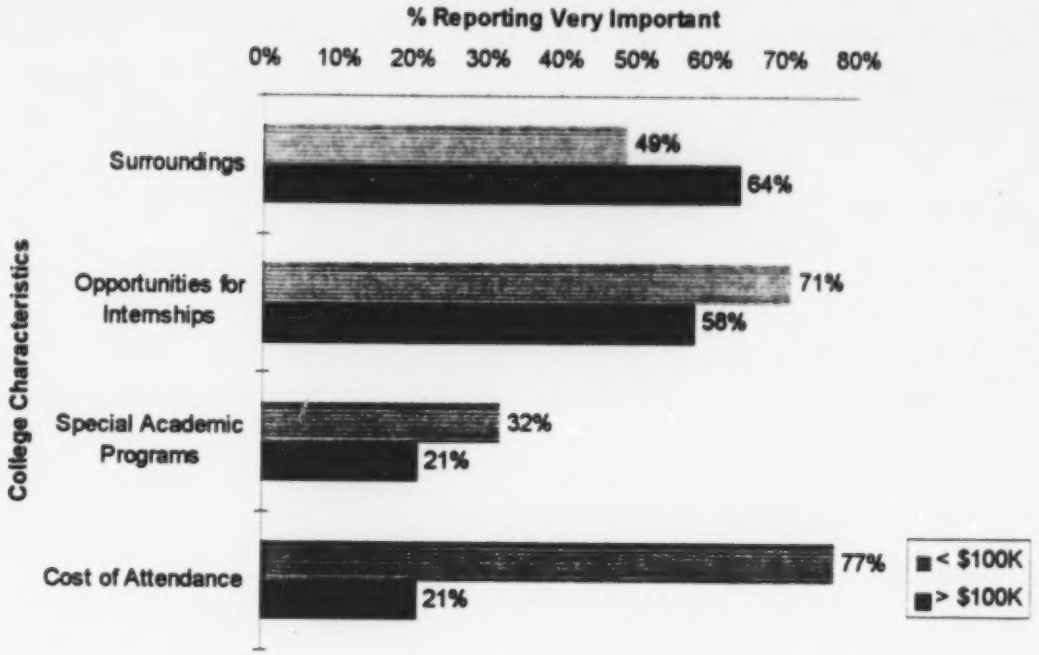
Analytical Techniques. Both bivariate and multivariate statistical techniques, including chi-square and correlation analyses, analysis of variance and discriminant analysis were employed in the analyses of the data. Analyses were conducted with individual questionnaire items and computed scales. These scales were created to simplify the data and to establish reliable, summary measures of students' responses, specifically regarding their ratings of college characteristics and college images.

Results

Income Variation in the Importance of College Characteristics

Analyses, comparing higher and lower income students' perceptions regarding the importance of various college characteristics, were conducted for sixteen specified college characteristics. These characteristics relate to academic, social, lifestyle and financial aspects of a college that students might consider. Statistically significant differences were found for four of the 16 characteristics. Results are graphically displayed in Figure 1.

Figure 1. The Importance of College Characteristics by Parental Income



As shown in Figure 1, compared with students from lower income families, students from higher income families attribute significantly more importance to the college's surroundings, i.e. the neighborhood, town or city in which the institution is located ($X^2 = 20.92$, p= .001). Some 64 percent of the higher income students, compared with only 49 percent of the students in the lower income category, identified surroundings as very important to their college choice. In contrast, students from the lower income families attribute more importance to opportunities for internships ($X^2 = 24.21$, p= .001); 71 percent of these students, compared with 58 percent of the students in the higher income category, identified opportunities for internships as very important to their college choice.

Students in the lower income category also attribute somewhat more importance to the academic programs available to them at a given college ($X^2 = 12.14$, p= .01). Some 32 percent

of the students in the lower income category, compared with only 21 percent of those in the higher income category, identified special academic programs as very important to their college choice. Finally, as expected, students from families in the lower income category express significantly greater concern about the cost of attendance ($X^2 = 271.64$, $p = .001$); 77 percent of the students in the lower income category, compared with only 21 percent of those in the higher income category, identified cost of attendance as very important to their college choice.

Differences in Ratings of College Characteristics

Since students' perspective on the characteristics of a given college also exert a potentially significant effect on their college choice, this study included a comparative analysis of the differences in 'Excellent' ratings between higher and lower income, enrolling and non-enrolling students on specific college characteristics.

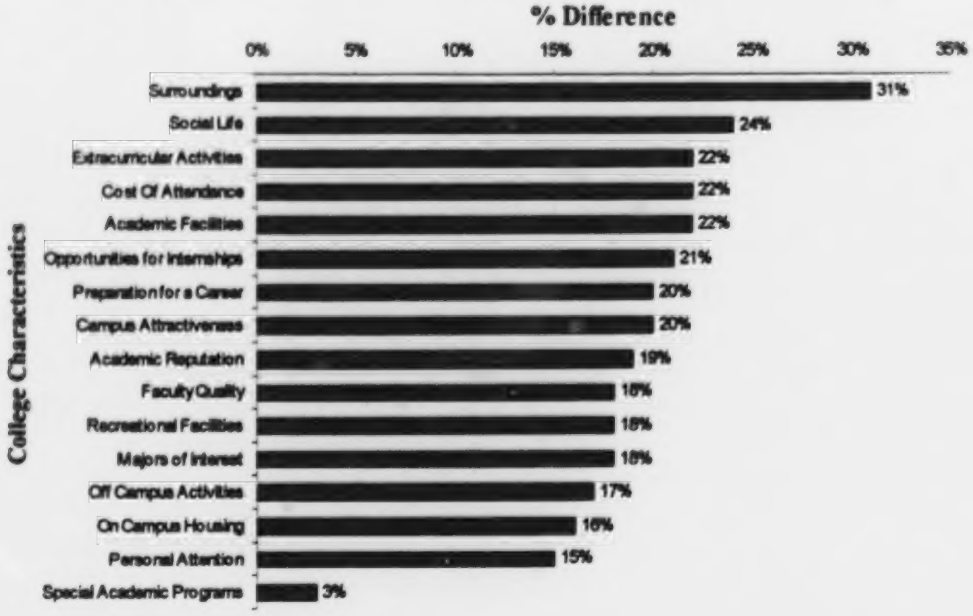
Higher Income Students. Figure 2 presents a distribution of percent differences in 'Excellent' ratings between higher income, enrolling and non-enrolling students. These data identify aspects of the college that might be strengthened or featured more prominently to recruit more higher income students. As shown, characteristics with the largest percent differences between higher income, enrolling and non-enrolling students relate both to the academic strength of the college and the campus social life. For example, compared with higher income non-enrolling students, 41 percent more of the enrolling students rate the college 'Excellent' for the quality of faculty and 33 percent more rate the college 'Excellent' on academic reputation. Some 37 and 32 percent more respectively of the enrolling students rate the college 'Excellent' on extracurricular activities and off-campus activities. Also, 34 percent more of the enrolling students rate the college 'Excellent' on majors of interest. These data support a strategy to focus more intensively on favorably influencing

higher income students' perception of the college's academic reputation, the quality of the faculty, majors of interest, and opportunities for extracurricular and off-campus activities.

Figure 2. Percent Differences between Higher Income, Enrolling and Non-Enrolling Students on Excellent Ratings for College Characteristics

Lower Income Students. Figure 3 displays the college characteristics with the largest percent differences in 'Excellent' ratings between lower income, enrolling and non-enrolling students. As shown, enrolling students perceive the college more positively on the college's surroundings, the quality of social life, the opportunity for extracurricular activities, cost of attendance and academic facilities; the differences in 'Excellent' ratings range between 22 and 31 percent.

Figure 3. Percent Differences between Lower Income, Enrolling and Non-Enrolling Students on Excellent Ratings for College Characteristics



Comparative analysis of the data presented in Figures 2 and 3 reveals that higher and lower income students differ with respect to the most differentiating characteristics between enrolling and non-enrolling students. Among higher income accepted students, enrolling students rated the college higher on faculty quality, majors of interest and academic reputation. In contrast, among lower income accepted students, enrolling students rated the college higher on college surroundings, social life and the cost of attendance.

Income Variation on the College Characteristics Rating Scales

In addition to item level analyses, statistical tests were also conducted using computed scales. The College Characteristic Rating scales employed in this study represent students' average ratings on two different dimensions of the college experience. The Quality of Education and Professional Preparation scale, with a reliability of .81, represents students' mean ratings on several items including academic reputation, quality of the faculty, personal attention, availability

of special academic programs, opportunities for internships, and preparation for a career. The Campus Environment and Social Life scale, with a reliability of .83, represents students' mean ratings on the college's surroundings, academic and recreational facilities, on-campus housing, attractiveness of the campus, opportunities to participate in extracurricular activities, quality of social life and access to off-campus cultural and recreational opportunities.

Table 1 displays higher and lower income, enrolling and non-enrolling students' mean scores on the college characteristic rating scales. As shown, on the Quality of Education and Professional Preparation scale, the mean scores for enrolled students in both income categories are very close, 3.74 for the lower income category and 3.72 for the higher income group, while the mean scores of the non-enrolled students are somewhat lower, 3.51 for the lower income category and 3.42 for the higher income category. Mean scores on the Campus Environment and Social Life scale are also positive ranging from 3.52 reported by enrolling students in the lower income category to 3.10 reported by non-enrolling students in the higher income category. These data indicate that both enrolling and non-enrolling students generally rated the college positively on academic and professional preparation and on the campus environment and social life.

Table 1. Variation by Income and Enrollment Status in Students' Mean Scores on the College Characteristics Rating Scales

A. Quality of Education and Professional Preparation Scale (N=818)

Income Level	Enrolled Students	Non- Enrolled Students	Mean Differences	F-Ratio
$100,000 or Higher	3.72	3.42	.30***	24.22***
	(.32)	(.44)		
Less than $100,000	3.74	3.51	.23***	
	(.31)	(.48)		
B. Campus Environment and Social Life Scale (N=811)				
$100,000 or Higher	3.48	3.10	.38***	36.53***
	(.40)	(.51)		
Less than $100,000	3.52	3.18	.34***	
	(.36)	(.53)		

Note: The number in parenthesis is the standard deviation. *** $p \leq .001$

While noting the overall positive results, analysis of variance identified significant differences in students' ratings on these scales. Therefore, post-hoc Scheffé tests were conducted to determine if the mean differences between specific groups were statistically significant. Results from the Scheffé tests revealed statistically significant differences, at the .001 level, between enrolling and non-enrolling students' means in the higher and lower income categories on both scales. Compared with non-enrolling students in their income group, enrolling students rated the college significantly more positively on both the Quality of Education and Professional Preparation scale and the Campus Environment and Social Life scale.

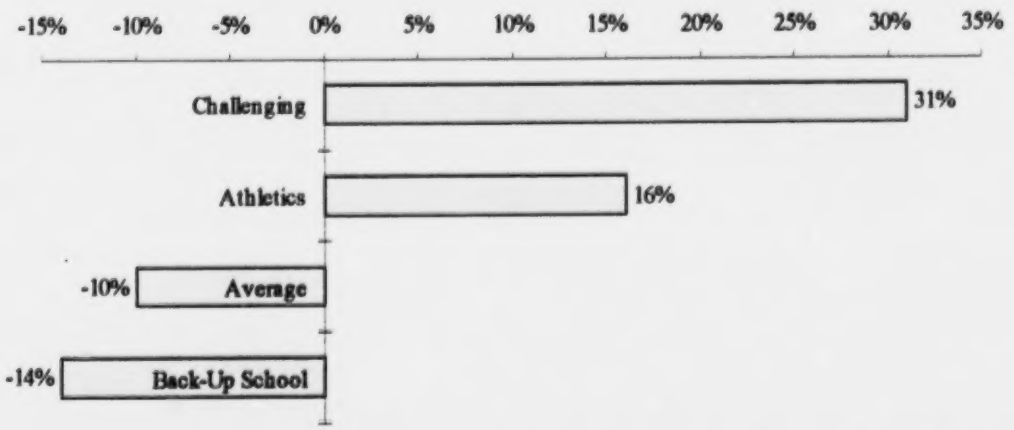
Differences between Enrolling and Non-Enrolling Students' Images of the College

Survey respondents were presented with a list of 19 images and asked to identify which ones they thought were the most widely held images of the college. Illustrative images include prestigious, not well known, friendly, challenging and expensive. Separate analyses were

conducted to determine if there were statistically significant differences between the images held by enrolling and non-enrolling students in both the higher and lower income categories.

Higher Income Students. Statistically significant differences were found among higher income students on four of the 19 images: challenging ($X^2 = 10.09$, $p \leq .01$); athletics ($X^2 = 5.13$, $p \leq .05$); average ($X^2 = 10.90$, $p \leq .01$); back-up school ($X^2 = 14.65$, $p \leq .01$). As illustrated in Figure 4, the largest percent differences occurred with respect to the image of the college as challenging and athletic. Compared with higher income, non-enrolling students, 31 percent more of the enrolling students perceived the college as challenging and 16 percent more associated the college with athletics.

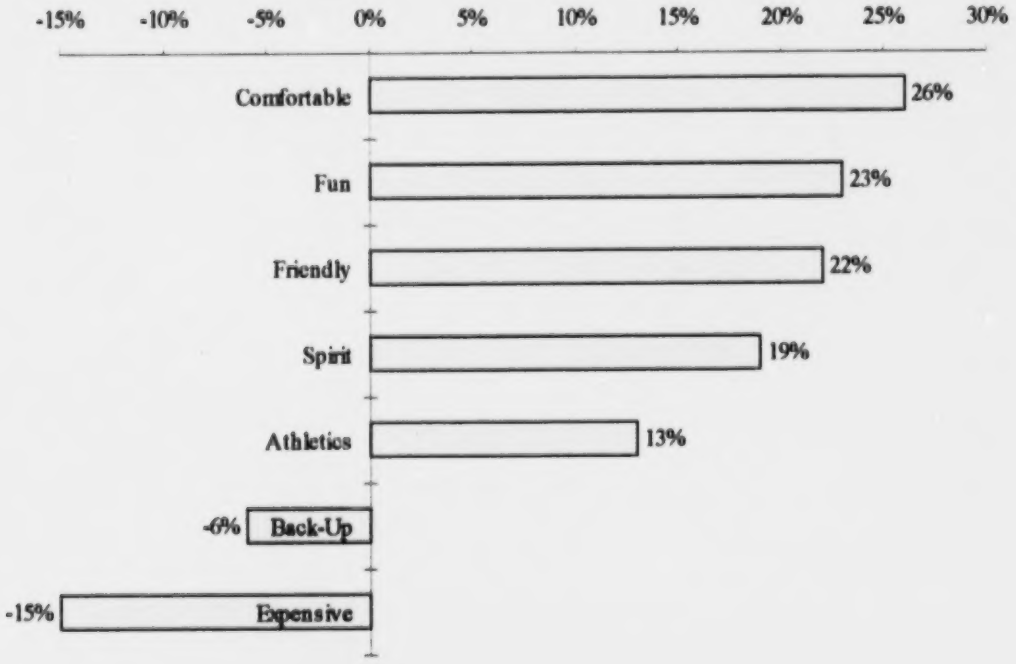
Figure 4. Differences between Higher Income Enrolling and Non-Enrolling Students' Images of the College



Lower Income Students. Among lower income students, statistically significant differences were found between enrolling and non-enrolling students on seven of the 19 images. Most of these images involved social aspects of the college experience, e.g., comfortable ($X^2 = 11.82$, $p \leq .001$); fun ($X^2 = 10.51$, $p \leq .01$); friendly ($X^2 = 9.24$, $p \leq .01$); and spirit ($X^2 = 9.85$, $p \leq .01$). Other statistically significant differences referred to athletics ($X^2 = 5.35$, $p \leq .05$); back-up school

($X^2 = 7.34$, $p \leq .01$); and expensive ($X^2 = 5.67$, $p \leq .05$). As shown in Figure 5, compared with lower income, non-enrolling students, 19 to 26 percent more of the enrolling students perceived the college as a comfortable, fun, friendly or spirit school; 15 percent fewer considered the college as expensive.

Figure 5. Differences between Lower Income, Enrolling and Non-Enrolling Students' Images of the College



Predicting Accepted Students' Enrollment Decision

Higher Income Students. Based on results from bivariate analyses, the following five variables were selected as potential predictors in a discriminant analysis for high income students: the College Campus Environment and Social Life Rating Scale; the Quality of Education and Professional Preparation Rating Scale; Students' Average High School Grades; SAT Verbal Scores; and Ratings of the College on Majors of Interest.

Table 2 identifies those variables that proved to be significant predictors of higher income students' enrollment status. The discriminant function coefficients reflect the relative weight of the predictors on students' enrollment decision. As shown, results from the discriminant analysis revealed that higher income students were significantly more likely to enroll if they rated the college more positively on the Campus Environment and Social Life Rating Scale; reported relatively lower high school grades; attained relatively lower SAT Verbal scores; and rated the college more positively on majors of interest. Students' ratings on the Campus Environment and Social Life scale clearly had the strongest effect on enrollment status. The discriminant function, including these four variables, accurately predicted the enrollment decision of 80 percent of the respondents. The canonical correlation of .63 indicates that this function explains 40 percent of the variance in higher income, accepted students' enrollment decision.

Table 2. Discriminant Analysis Results:
Predicting Higher Income Accepted Students' Enrollment Decision

Predictors	Standardized Discriminant Function Coefficients	Percent Correctly Classified
Campus Environment and Social Life	.59	80%
Average High School Grades	-.51	
SAT Verbal Scores	-.32	
Rating on Majors of Interest	.45	
Canonical Correlation	.64	$X^2 = 132.90; df=4; p \leq .001$

Lower Income Students. Table 3 identifies those variables that proved to be significant predictors of lower income students' enrollment status. In contrast with the model for high income students, cost of attendance emerges as the strongest predictor of enrollment status among lower income students. Three additional variables, significant predictors for both groups, include: students' rating of the campus environment and social life, SAT verbal scores, and

average high school grades. As shown in Table 3, the four variable model accurately predicts the enrollment decision of 79 percent of the lower income, accepted students. The canonical correlation of .55 indicates that this model explains 30 percent of the variance in lower income, accepted students' college choice. Students in the lower income category were much more likely to enroll if they rated the college positively on cost and on the campus environment and social life.

Table 3. Discriminant Analysis Results: Predicting Lower Income Accepted Students' Enrollment Decision

Predictors	Standardized Discriminant Function Coefficients	Percent Correctly Classified
Cost of Attendance	.78	79%
Campus Environment and Social Life	.59	
SAT Verbal Scores	-.28	
Average High School Grades	-.27	
Canonical Correlation	.55	X^2=258.05;df=4; p≤.001

Discussion

Importance of College Characteristics. Results from this research indicate that, in terms of the importance of college characteristics in general, students from higher income families are relatively more concerned about the lifestyle they will enjoy during their college experience. For example, compared with students from the lower income families, students from higher income families attributed more importance to the college's surroundings, i.e. the neighborhood, town or city in which the institution is located. In contrast, students from lower income families attributed significantly more importance to the cost of attendance and to opportunities for internships. These results support Baird's (1967) earlier finding that, when considering the importance of college characteristics in general, students from higher income homes are more likely to give major consideration to the social opportunities available while lower income students are more concerned about how the college will prepare them for a career.

Ratings of College Characteristics. Comparative analyses revealed some significant differences between higher income, enrolling and non-enrolling students' ratings on academic characteristics and social factors of the specific college to which they were accepted. Compared with higher income non-enrolling students, at least 30 percent more of the enrolling students rated the college 'Excellent' for the quality of faculty, the academic reputation, extracurricular activities, off-campus activities, and majors of interest. Among lower income students, a substantially higher percent of the enrolling students, compared with the non-enrolling students, rated the college more positively on the college's surroundings and social life. These differences suggest the potential value of designing unique recruitment efforts to influence both higher and lower income, accepted students' perception of these college characteristics.

Differences in Images of the College. Comparative analyses also revealed significant differences between enrolling and non-enrolling students' images of the college. Among higher income students, the most discriminating variables related to academic rigor or the quality of the college. Compared with non-enrolling students, significantly more of the enrolling students regarded the college as challenging and significantly fewer perceived the college as average or a back-up school. In contrast, among lower income students, significantly more of the enrolling students viewed the college in terms of social images as a comfortable, fun, friendly, spirit school. Also, significantly fewer regarded the college as expensive.

Conclusion

In conclusion, results from this research document several statistically significant relationships between students' income and the college choice process. When considering the importance of college characteristics in general, higher income students attribute more importance

to the college's surroundings while lower income students focus more attention on substantive issues such as opportunities for internships, the academic program, and cost. Findings from this study also reveal significant differences by income between enrolling and non-enrolling students' evaluation and image of their college of choice. Among higher income students, significantly more enrolling students rated their college of choice positively on academic reputation, the quality of the faculty, and majors of interest, and significantly more enrolling students perceived the college as challenging. In contrast, among lower income students, significantly more enrolling students rated the college positively on surroundings, social life, extracurricular activities, and cost, and significantly more enrolling students perceived the college as fun, comfortable, and friendly. These specific findings reflect a pattern of relationships found in previous studies between income and the college choice process (Zemsky & Oedel, 1983; Flint, 1992).

Recommendations emanating from this study encouraged administrators to improve the vibrancy of the college's actual and perceived social life; to develop collaborative programs with other colleges; to intensify efforts to promote the image of the college as prestigious and selective; and to build on the college's strength by increasing contact between prospective students and faculty members as well as graduates. Information and insights gained from this study were used to expand institutional horizons by informing the development of unique recruitment strategies for special student segments.

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